

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S51	7	@ad<"19990501" and ((2-dimension\$5 two-dimension\$5 ((two "2") adj dimension\$5) ) near5 (compress\$5 reduc\$5 minim\$5 accelerat\$5 render\$5)). ab. not S44 and ("709" "345"). clas. and compress\$5.ab.	US-PGPUB; USPAT	OR	ON	2006/03/30 09:20

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	26	@ad<"19990501" and (( 2-dimension\$5 two-dimension\$5) near5 (index indic\$5 coordinate )) and (( 2-dimension\$5 two-dimension\$5 surface) near5 (client remote mobil\$5)) and (( bitmap lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5) near5 (compress\$5 reduc\$5 minim\$5 accelerat\$5 render\$5))	US-PGPUB; USPAT	OR	ON	2006/03/30 13:51
L2	8	@ad<"20000526" and (( 2-dimension\$5 two-dimension\$5 ((two "2") adj dimension\$5) ) near5 (compress\$5 reduc\$5 minim\$5 accelerat\$5 render\$5)). ab. not L1 and ("709" "345").clas. and compress\$5.ab.	US-PGPUB; USPAT	OR	ON	2006/03/30 13:51
L3	31	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5))) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" and ((coordinate adj system) quadrant) and "709".clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 13:51

## EAST Search History

L4	16	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" and "709".clas. not L3	US-PGPUB; USPAT	OR	ON	2006/03/30 13:51
L5	0	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (decompos\$5)).ab. ) and ( (angle delta direction vertex) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) not (L1 L2 L3 L4) and (quantized adj angle)	US-PGPUB; USPAT	OR	ON	2006/03/30 13:51
L6	1	"4513444".pn.	US-PGPUB; USPAT	OR	ON	2006/03/30 13:57
L7	1206	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (L1 L2 L3 L4) and "382".clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 14:06

## EAST Search History

L8	1	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (L1 L2 L3 L4) and "382".clas. and (quantiz\$3 adj angle)	US-PGPUB; USPAT	OR	ON	2006/03/30 14:10
L9	6	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (L1 L2 L3 L4) and 382/241.ccls.	US-PGPUB; USPAT	OR	ON	2006/03/30 14:10

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	26	@ad<"19990501" and (( 2-dimension\$5 two-dimension\$5) near5 (index indic\$5 coordinate )) and (( 2-dimension\$5 two-dimension\$5 surface) near5 (client remote mobil\$5)) and (( bitmap lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5) near5 (compress\$5 reduc\$5 minim\$5 accelerat\$5 render\$5))	US-PGPUB; USPAT	OR	ON	2006/03/30 09:21
L2	8	@ad<"20000526" and (( 2-dimension\$5 two-dimension\$5 ((two "2") adj dimension\$5) ) near5 (compress\$5 reduc\$5 minim\$5 accelerat\$5 render\$5)). ab. not L1 and ("709" "345").clas. and compress\$5.ab.	US-PGPUB; USPAT	OR	ON	2006/03/30 09:21
L3	31	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5))) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" and ((coordinate adj system) quadrant) and "709".clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 09:23

## EAST Search History

L4	16	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" and "709".clas. not L3	US-PGPUB; USPAT	OR	ON	2006/03/30 09:35
L5	16753	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (I1 I2 L3 I4)	US-PGPUB; USPAT	OR	ON	2006/03/30 09:36
L6	575	((((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (I1 I2 L3 I4) and ("709" "345").clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 09:54

## EAST Search History

L7	71	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).ab.) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece ))).ab. and @ad<"20000526" not (l1 l2 l3 l4) and ("709" "345").clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 10:02
L8	2	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)) ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (l1 l2 l3 l4) and citrix	US-PGPUB; USPAT	OR	ON	2006/03/30 10:03
L9	41234	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).clm. ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (l1 l2 l3 l4)	US-PGPUB; USPAT	OR	ON	2006/03/30 10:04

## EAST Search History

L10	1634	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)) ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece ))).clm. and @ad<"20000526" not (l1 l2 l3 l4) and ("709" "345").clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 10:05
L11	321	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).clm. ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece ))).clm. and @ad<"20000526" not (l1 l2 l3 l4) and ("709" "345").clas.	US-PGPUB; USPAT	OR	ON	2006/03/30 10:27
L12	4	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)).clm. ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece ))).clm. and @ad<"20000526" not (l1 l2 l3 l4) and ("709" "345").clas. and (quantized adj angle)	US-PGPUB; USPAT	OR	ON	2006/03/30 10:13

## EAST Search History

L13	13	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)) ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (l1 l2 l3 l4) and ("709" "345").clas. and (quantized adj angle)	US-PGPUB; USPAT	OR	ON	2006/03/30 10:14
L14	43	(((graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece) near5 (compress\$5 reduc\$5 minim\$5)) ) and ( (angle delta direction) near5 (graphic\$5 bitmap glyph\$5 gdi lines curv\$5 form shape imag\$4 2-dimension\$5 two-dimension\$5 2-d strip segment linear draw\$5 vector pixel outline plygon section portion piece )) and @ad<"20000526" not (l1 l2 l3 l4 l13) and 709/246-247.ccls.	US-PGPUB; USPAT	OR	ON	2006/03/30 10:29

# EIC Fast & Focused Search results for case #09/866520

## BIBLIOGRAPHIC PATENTS

File 347:JAPIO Nov 1976-2005/Nov(Updated 060302)

(c) 2006 JPO & JAPIO

File 350:Derwent WPIX 1963-2006/UD,UM &UP=200620

(c) 2006 Thomson Derwent

Set Items Description

- S1 1641380 IMAG??? OR GRAPHIC? ? OR PICTURE? ? OR BITMAP???? OR GIF? ?  
OR JPEG? ?
- S2 2590486 PATH? ? OR LINE? ? OR ROW? ? OR ARRAY? ? OR VECTOR? ? OR P-  
IXEL? ? OR PEL OR PELS
- S3 82423 S2(3N)(SPLIT? ? OR SPLITTING OR DIVID??? OR DIVISION? ? OR  
SEPARAT??? OR BISECT??? OR BREAK??? OR SEGMENT??? OR SEGMENTA-  
TION? ?)
- S4 9062 ANGLE? ?(3N)(QUANTIZ??? OR QUANTIZATION? ? OR DIFFERENCE? ?  
OR DIFFERENTIAL OR DELTA)
- S5 1329 ANGLE? ?(3N)ABSOLUTE? ?
- S6 64588 (COORDINATE OR COORDINATES OR POINT? ?)(3N)(BEGINNING OR B-  
EGIN? ? OR START??? OR FIRST OR 1ST OR INITIAL?? OR ORIGINAT?-  
??)
- S7 782815 KEY? ? OR LOCATION? ? OR ADDRESS??
- S8 51 S7(3N)(FUZZY OR FUZZINESS)
- S9 1099332 MEMORY OR MEMORIES OR RAM OR ROM OR CACHE? ?
- S10 0 S1 AND S3 AND (S4 OR S5) AND S6 AND S8(5N)S9
- S11 26 S1 AND S3 AND (S4 OR S5)
- S12 24 S11 NOT AD=20000526:20030526/PR
- S13 20 S12 NOT AD=20030526:20060330/PR
- S14 749 S1 AND S3 AND COMPRESS???
- S15 22 S14 AND S6
- S16 21 S15 NOT AD=20000526:20030526/PR
- S17 21 S16 NOT AD=20030526:20060330/PR
- S18 21 S17 NOT S11
- S19 18 S1 AND S4 AND COMPRESS???
- S20 17 S19 NOT (S11 OR S18)
- S21 15 S20 NOT AD=20000526:20030526/PR
- S22 1 S1 AND S8 AND S9
- S23 3 S1 AND S8
- S24 2 S23 NOT S22
- S25 15940 S1 AND S7(7N)S9
- S26 536 S1(5N)COMPRESS??? AND S7(7N)S9
- S27 12 S26 AND (S3 OR S4 OR S5 OR S6)
- S28 12 S27 NOT (S11 OR S18 OR S23)
- S29 9 S28 NOT AD=20000526:20030526/PR
- S30 8 S29 NOT AD=20030526:20060330/PR
- S31 2583 DISTRIBUT??? (3N)APPLICATION? ?
- S32 3 S31 AND S1(5N)COMPRESS???

? logoff hold

30mar06 11:03:54 User259273 Session D365.6

13/5/1 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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06039448 \*\*Image available\*\*

SUPER CELL GENERATING METHOD AND COMPUTER READABLE RECORDING MEDIUM  
STORED

WITH PROGRAM FOR EXECUTING THE METHOD BY COMPUTER

PUB. NO.: 10-322548 [JP 10322548 A]

PUBLISHED: December 04, 1998 (19981204)

INVENTOR(s): MIYAGI MAKOTO

APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP  
(Japan)

APPL. NO.: 09-127638 [JP 97127638]

FILED: May 16, 1997 (19970516)

INTL CLASS: [6] H04N-001/405; H04N-001/46

JAPIO CLASS: 29.4 (PRECISION INSTRUMENTS -- Business Machines)

#### ABSTRACT

PROBLEM TO BE SOLVED: To efficiently generate a super cell and to effectively suppress degradation of images by respectively obtaining the line number difference / angle difference of the line number/angle of the super cell for each enlargement and specified line number/angle and adopting the super cell when the added value of the line number difference and the angle difference becomes minimum.

SOLUTION: A device resolution is divided by the specified line number, the length of one side of the ideal cell S' of a square for realizing the specified line number is obtained, the cosine and sine of the specified angle are multiplied with the length of one side and the ideal cell S' is quantized. The line number and angle of the quantized cell S are obtained and the line number difference and the angle difference from the specified line number and angle are respectively obtained. Then, the obtained respective line number difference and angle difference are added and a specification difference is obtained. The specification difference and the specification difference to be minimum among the ones obtained by them are compared and the pixel number and the number of times of loops of the one of the smaller difference are selected and stored.

13/5/9 (Item 9 from file: 347)

DIALOG(R)File 347:JAPIO

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02331180 \*\*Image available\*\*

CLOSED GRAPHIC IDENTIFIER

PUB. NO.: 62-248080 [JP 62248080 A]  
 PUBLISHED: October 29, 1987 (19871029)  
 INVENTOR(s): HARADA HIROAKI  
                   YAMAMOTO MASASHIGE  
                   ITO YASUKAZU  
                   SATO NOBUYUKI  
 APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP  
                   (Japan)  
 APPL. NO.: 61-093042 [JP 8693042]  
 FILED: April 22, 1986 (19860422)  
 INTL CLASS: [4] G06K-009/46  
 JAPIO CLASS: 45.3 (INFORMATION PROCESSING -- Input Output Units)  
 JOURNAL: Section: P, Section No. 690, Vol. 12, No. 123, Pg. 133, April  
             16, 1988 (19880416)

#### ABSTRACT

PURPOSE: To eliminate the disagreement between a **graphic** and loop information and to speed up processing by applying thinned and broken lines to an **image** so as to make **graphic** information into a table and detecting the loop by a retrieval operation on the table.

CONSTITUTION: An open arc reducing mechanism P1 reads and checks information on the end points of a **line segment** as for each arc in an arc table M2 out of a broken line data memory. If it is zero, the mechanism P1 sets a disuse flag to the **line segment**. A vector retrieval mechanism P2 selects a nonopen arc in the table M2, and sets its **segment line number** to a register R1. An **angle difference** computing mechanism P3 calculates the **angle difference** between the vector with a number previously set and the vector with a number currently set, and stores the sum of this **angle difference** and the old one. A directional flag is added to the **line segment** to be processed. The mechanism P2 retrieves the **line segment** clockwise. If the total sum of the **angle differences** comes to 2.pi. or returns to the initial state, a loop is closed. At that time a loop data generating mechanism P4 adds an ID to the loop, and registers its **line segment group** in a loop data memory.

18/5/2 (Item 2 from file: 347)  
 DIALOG(R)File 347:JAPIO  
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06124786 \*\*Image available\*\*  
**COMPRESSING METHOD FOR EXPOSURE DATA**

PUB. NO.: 11-066323 [JP 11066323 A]  
 PUBLISHED: March 09, 1999 (19990309)  
 INVENTOR(s): YOSHIDA KOICHI  
 APPLICANT(s): FUJITSU LTD  
                   FUJITSU VLSI LTD  
 APPL. NO.: 09-231007 [JP 97231007]  
 FILED: August 27, 1997 (19970827)  
 INTL CLASS: G06T-009/00; H01L-021/027; H04N-001/41; G06T-001/00

#### ABSTRACT

**PROBLEM TO BE SOLVED:** To sufficiently compress the data amount of exposure data by decomposing and storing a graphic, which is to be stored as exposure data, as line information.

**SOLUTION:** The graphic corresponding to an exposure pattern is decomposed into a line segment, and the end point coordinate data of this line segment are stored in a data storage means as exposure data. For example, exposure data 11 are composed of four rectangles but can be decomposed as six line segments LA1-LA6. Concerning the respective line segments LA1-LA6, start point information and terminal information are respectively stored as the data of 4 bytes. Therefore, the exposure data 11 are stored in a library as the data of  $8 \text{ bytes} \times 6 = 48 \text{ bytes}$ . Thus, the data amount can be remarkably compressed in graphic division. Therefore, the intersection coordinates of an exposure graphic is restored based on the start point information and terminal information of respective line segments in the exposure data compressed as line segment information, the exposure graphic is restored based on the intersection coordinate and line segment information, and exposure is performed based on the exposure graphic.

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18/5/5 (Item 5 from file: 347)  
 DIALOG(R)File 347:JPIO  
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04867584 \*\*Image available\*\*  
**IMAGE DATA DISPLAY DEVICE**

**PUB. NO.:** 07-160184 [JP 7160184 A]  
**PUBLISHED:** June 23, 1995 (19950623)  
**INVENTOR(s):** KATORI KAORU  
 KURAHASHI TADATAKA  
**APPLICANT(s):** GAKKEN CO LTD [000093] (A Japanese Company or Corporation),  
 JP (Japan)  
**APPL. NO.:** 05-303064 [JP 93303064]  
**FILED:** December 02, 1993 (19931202)  
**INTL CLASS:** [6] G09B-005/02; G06T-011/60; G09B-011/00; G09G-005/24  
**JPIO CLASS:** 30.2 (MISCELLANEOUS GOODS -- Sports & Recreation); 44.9  
 (COMMUNICATION -- Other); 45.9 (INFORMATION PROCESSING --  
 Other)  
**JPIO KEYWORD:** R106 (INFORMATION PROCESSING -- Kanji Information Processing)

#### **ABSTRACT**

**PURPOSE:** To provide a display device efficiently storing image data such as KANJI (Chinese character) of writing brush style largely displayed on a display means and requiring a large amount of memory for the display and storage while compressing them in a storage means of the limited

capacity, and restoring them to display on the display means.

**CONSTITUTION:** The image data display device 1 which is provided with the

display means 2 for displaying the image data, an input means 3 for instructing the display of image data, etc., to this display means 2 and the external storage means 4 to store the image data in accordance with ON information bits of the dots arranged in the matrix state composing these image data, represents the distinctive feature such that the ON information bits in the contour of the image data are omitted and the ON information bits of line segments in each direction composing the contour are compressed and stored in accordance with coordinates of the start point and end point of the line segments then these compressed and stored image data are restored and displayed on the display means 2. These image data are prepared to be composed of the characters such as KANJI of writing brush style, KANA (Japanese syllabary), etc.

18/5/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO

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03545569 \*\*Image available\*\*

#### PICTURE DATA COMPRESSION SYSTEM

PUB. NO.: 03-208469 [JP 3208469 A]

PUBLISHED: September 11, 1991 (19910911)

INVENTOR(s): YOSHIDA SHIGERU

NAKANO YASUHIKO

APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 02-003170 [JP 903170]

FILED: January 10, 1990 (19900110)

INTL CLASS: [5] H04N-001/417; G06F-015/66

JAPIO CLASS: 44.7 (COMMUNICATION -- Facsimile); 45.2 (INFORMATION PROCESSING -- Memory Units); 45.4 (INFORMATION PROCESSING -- Computer Applications)

JOURNAL: Section: E, Section No. 1142, Vol. 15, No. 482, Pg. 23, December 06, 1991 (19911206)

#### ABSTRACT

**PURPOSE:** To attain valid data **compression** independently of the kind of **picture** by coding the data while studying the regularity such as a linearity or way of bent of a contour line in matching with an object **picture**.

**CONSTITUTION:** An inputted **picture** is converted into a data with a 1st coding means 10 where the relation of connection of a contour line is traced and a rearrangement means 12 rearranges the data into the relation of connection along with the contour line and optimization is applied while studying the statistic property of the linearity or way of bent of the contour line with a 2nd coding means (universal coding) 16 and the relation of connection along the contour line is **divided** into a group of **start point** information only and a group of connection point information and end point information, they are rearranged respectively to be arranged and sets of information of different property are studied in the lump to enhance the effect of study thereby improving the **compression** rate.

18/5/7 (Item 7 from file: 347)  
 DIALOG(R)File 347:JAPIO  
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03246764 \*\*Image available\*\*  
**PICTURE CODING METHOD**

PUB. NO.: 02-222264 [JP 2222264 A]  
 PUBLISHED: September 05, 1990 (19900905)  
 INVENTOR(s): MURAYAMA NOBORU  
 APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP  
 (Japan)  
 APPL. NO.: 01-042842 [JP 8942842]  
 FILED: February 22, 1989 (19890222)  
 INTL CLASS: [5] H04N-001/41  
 JAPIO CLASS: 44.7 (COMMUNICATION -- Facsimile)  
 JAPIO KEYWORD:R131 (INFORMATION PROCESSING -- Microcomputers &  
 Microprocessors)  
 JOURNAL: Section: E, Section No. 1003, Vol. 14, No. 524, Pg. 134,  
 November 16, 1990 (19901116)

#### ABSTRACT

**PURPOSE:** To attain affine transformation and coding with excellent **compression** efficiency by tracing a profile line, decomposing the line into plural curved lines and straight line components and coding control point information required to generate each component.

**CONSTITUTION:** A micro processor 12 extracts a profile line of an original **picture** in a bit map memory 15, traces the profile line automatically and stores a tracing data in a profile data memory 14. As to x, y **line segments** being components of the profile line, the **start** and **end points** of a generated curve or straight **line segment** are set to both ends of a part where 3 consecutive **line segments** form a U-shape and a part of a long straight **line** to **divide** the profile **line** into plural curved lines or straight line components, the control point information required to generate the curve or straight **line segments** is stored in a control point address memory 15, each control point address is coded and stored on a code memory 16. Thus, affine transformation such as magnification, reduction or rotation is facilitated, the quantity of codes is less and the coding with excellent **compression** efficiency is attained.

18/5/8 (Item 8 from file: 347)  
 DIALOG(R)File 347:JAPIO  
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03073277 \*\*Image available\*\*  
**PICTURE DATA PROCESSING SYSTEM**

PUB. NO.: 02-048777 [JP 2048777 A]  
 PUBLISHED: February 19, 1990 (19900219)

INVENTOR(s): MURAYAMA NOBORU  
 APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP  
 (Japan)  
 APPL. NO.: 63-198015 [JP 88198015]  
 FILED: August 10, 1988 (19880810)  
 INTL CLASS: [5] G06F-015/66; H04N-001/41  
 JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 44.7  
 (COMMUNICATION -- Facsimile)  
 JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers &  
 Microprocessors)  
 JOURNAL: Section: P, Section No. 1044, Vol. 14, No. 214, Pg. 133, May  
 07, 1990 (19900507)

#### ABSTRACT

**PURPOSE:** To **compress** the quantity of the information of two-dimensional curve in a **picture** when said two-dimensional curve is transmitted or stored by **compressing** it by using four pieces of coordinate data, i.e. the **coordinates** of the **beginning** end and the terminal end of the curve and the **coordinates** of the **beginning** end and the terminal end of a **tangent line segment** to determine the shape of the curve.

**CONSTITUTION:** For instance, one curve corresponding to fishhook shape is divided into the curve S1 inscribed to a quadrilateral A1A2P1Q1 formed by four **coordinates** of the **beginning** end A1, the terminal end A2 and the beginning end and the terminal end P1, Q1, and the curve S2 inscribed to the quadrilateral A2A3P2Q2 formed by four **coordinates** of the **beginning** end A2, the terminal end A3, the beginning end and the terminal end P2, Q2. Then, data is **compressed** as considering respective groups of the **coordinates** A1,A2,P1,Q1 and A2,A3,P2,Q2 to be one data respectively. Thus, the **shape** of the curve can be reproduced smoothly by the small quantity of the information.

18/5/18 (Item 7 from file: 350)  
 DIALOG(R)File 350:Derwent WPIX  
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003924624

WPI Acc No: 1984-070168/198412

XRPX Acc No: N84-052942

**Input of graphical symbol data - has points on symbol identified to provide description in compressed data form**

Patent Assignee: DAINIPPON SCREEN SEIZO KK (DNIS )

Inventor: ARAKI S; OKAI T

Number of Countries: 005 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3328308	A	19840315	DE 3328308	A	19830805	198412 B
FR 2533044	A	19840316			198416	
JP 59049655	A	19840322	JP 82159878	A	19820914	198418
GB 2130057	A	19840523	GB 8324635	A	19830914	198421
GB 2130057	B	19860917			198638	
US 4700402	A	19871013	US 83519727	A	19830802	198743

Priority Applications (No Type Date): JP 82159878 A 19820914

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 3328308 A 19

Abstract (Basic): GB 2130057 A

Method of inputting digitised, two-value **graphic** pattern data of a character or a symbol into a memory device, characterised by that: A selected contour line of the **graphic** pattern is automatically traced from a **start point** selected from a plurality of sampling points arranged on the contour line, and positional data of the sampling points detected in the course of the tracing of the contour line is sequentially stored in a memory as a **graphic** pattern data, wherein table lines are drawn across the **graphic** pattern in such a manner that the table lines are substantially parallel to one another and each of the intervals between the table lines is smaller than the minimum diameter of the loops defined by the counter lines and the **start point** is defined as an intersecting point of the selected contour line with a table line, said each table line is assigned with a directivity and an order of priority and the intersecting points of the table lines and the contour lines are sequentially detected according to the directivity and the order of the priority in such a manner that each of the contour lines is traced from a **first intersecting point** as a **start point** and a next intersecting point is selected upon completion of tracing of the previous contour line.

DE 3328308 A

A graphical reproduction of an alpha numeric symbol in a variety of languages, e.g. English, Japanese, is entered into a digital memory in a **compressed** data format without reducing the resolution of the character. The symbol is represented on a field with a specific number of lines (11-18) and each line identifies a number of points (P) on the boundary of the symbol.

The location of a boundary point on the symbol is identified in relation to points on either side that allows the areas within and outside of the symbol to be identified. The identification process proceeds on a line by line basis until the symbol is completely described. The data is entered into the system memory.

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Title Terms: INPUT; GRAPHICAL; SYMBOL; DATA; POINT; SYMBOL; IDENTIFY; DESCRIBE; **COMPRESS** ; DATA; FORM

Derwent Class: P74; S06; T01; T04; W02

International Patent Class (Additional): B41B-019/00; G06F-003/03;

G06F-015/20; G06K-009/48; G06K-011/06; H04N-001/41

File Segment: EPI; EngPI

18/5/19 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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003924621

WPI Acc No: 1984-070165/198412

XRPX Acc No: N84-052940

**Data compression of two dimensional character reproductions - has**

symbol sampled and described by points with redundant data elimination

Patent Assignee: DAINIPPON SCREEN SEIZO KK (DNIS )

Inventor: ARAKI S

Number of Countries: 005 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3326725	A	19840315	DE 3326725	A	19830725	198412 B
FR 2533041	A	19840316			198416	
JP 59047666	A	19840317	JP 82159225	A	19820913	198417
GB 2129660	A	19840516	GB 8324334	A	19830912	198420
US 4566128	A	19860121	US 83514674	A	19830718	198606
GB 2129660	B	19860730			198631	
DE 3326725	C	19860925			198639	

Priority Applications (No Type Date): JP 82159225 A 19820913

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 3326725 A 22

Abstract (Basic): GB 2129660 A

Method for the **compression** of data signals for two-value **picture image**, characterised by the steps of: dividing an original **picture image** into a plurality of partial **picture images**; determining a **start point** and an end point of each contour line found in each of the partial **picture images** by finding the intersections between the contour line and the lines **dividing** the original **picture image** into the partial **picture images**; detecting characteristic points in each contour line by tracing the contour line in each of the partial **picture images** from the corresponding **start point** and end point; extracting those **start points** and end points which connect to those in the neighbouring partial **picture images** and the characteristic points as necessary points for determining a group of closed-loop line segments as an aggregate of the contour lines; and further **compressing** the data of the original **picture image** by removing any redundant point data through comparison of the gradients of the closed-loop line segments for each neighbouring coordinate point pair of said necessary points on the particular contour line.

DE 3326725 A

An input unit allows the original representation of a symbol to be photo electrically scanned and the signals converted to digital form. The data is stored in two dimensional form as a point matrix. The memory has a number of blocks, each of which stores a segment of the symbol data that is transferred to individual units. Both memories are controlled by a single unit that provides write, read and addressing capability.

The co-ordinate values describing the **start** and end points are detected and are stored in a register for transmission to a stage that allow the contour to be detected. The line segment data is stored and the complete line description formed for storage. Segments with the same gradient are reduced such that the amount of data to be stored is reduced without reducing the system resolution.

0/6

Title Terms: DATA; **COMPRESS**; TWO; DIMENSION; CHARACTER; REPRODUCE; SYMBOL; SAMPLE; DESCRIBE; POINT; REDUNDANT; DATA; ELIMINATE

Derwent Class: P84; S06; T01; T04; W02

International Patent Class (Additional): G03F-003/08; G06F-003/03;

G06F-015/20; G06K-009/48; G06K-011/06; H04N-001/41  
File Segment: EPI; EngPI

18/5/20 (Item 9 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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003924620

WPI Acc No: 1984-070164/198412

XRPX Acc No: N84-052939

**Description of sampled line in compressed data form - has sampled coordinate line points used to calculate length and angle description of line segment**

Patent Assignee: DAINIPPON SCREEN SEIZO KK (DNIS )

Inventor: ARAKI S; OKAI T

Number of Countries: 005 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3326583	A	19840315	DE 3326583	A	19830723	198412 B
GB 2126858	A	19840328	GB 8324333	A	19830912	198413
FR 2533040	A	19840316			198416	
JP 59049071	A	19840321	JP 82159226	A	19820913	198418
US 4513444	A	19850423	US 83514678	A	19830718	198519
GB 2126858	B	19860820			198634	
DE 3326583	C	19870709			198727	

Priority Applications (No Type Date): JP 82159226 A 19820913

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 3326583 A 15

Abstract (Basic): GB 2126858 A

A method for **compressing** data by automatically determining the necessary sampling points from those which have less significance in accurately reproducing character **images** characterised by the steps of: selecting a plurality of sampling points along the contour line; finding the length of a **line segment** connecting a sampling point of interest and a preceding sampling point; finding the angle defined by the mentioned **line segment** and another **line segment** defined by connecting the sampling point of interest with a following sample point; and determining whether the sampling point of interest is necessary data which needs to be retained or unnecessary data which may be disregarded according to the length of the first **line segment** and the angle defined by the first and the second **line segments**.

DE 3326583 A

Sample points that describe the boundary line of a symbol are obtained in an x,y two dimensional coordinate system. The data is sufficient to provide a complete description of the line necessary for accurate reproduction.

The acquired coordinate values of the points are subject to arithmetic processing (3) to calculate the length of the **line segments** and the relative displacement angle. A multiplication unit operates to generate the product of length and angle that are compared

with values stored in memory, when the calculated value exceeds the reference value the coordinate value is generated as a **start point** the next sampling cycle. The method is used in computer controlled phototype setting.

0/3

Title Terms: DESCRIBE; SAMPLE; LINE; **COMPRESS** ; DATA; FORM; SAMPLE; COORDINATE; LINE; POINT; CALCULATE; LENGTH; ANGLE; DESCRIBE; LINE; SEGMENT

Derwent Class: P75; P84; S06; T01; T04

International Patent Class (Additional): B41J-003/02; G03F-003/08; G06F-003/03; G06F-007/00; G06F-015/20; G06K-009/78; G06K-011/06; H04N-001/41

File Segment: EPI; EngPI

18/5/21 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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003623723

WPI Acc No: 1983-H1925K/198322

XRPX Acc No: N83-093442

**Two-value image data compression for photo-typesetting - divides original in exclusion images by separating lines and detects intersection points at text field contour lines**

Patent Assignee: DAINIPPON SCREEN SEIZO KK (DNIS )

Inventor: ARAKI S; HASHIYAMA H

Number of Countries: 005 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3241673	A	19830526	DE 3241673	A	19821111	198322 B
FR 2516280	A	19830513			198324	
JP 58081383	A	19830516			198325	
GB 2111796	A	19830706	GB 8232102	A	19821110	198327
GB 2111796	B	19850522			198521	
US 4524456	A	19850618	US 82440559	A	19821110	198527
DE 3241673	C	19850814			198534	

Priority Applications (No Type Date): JP 81180649 A 19811111

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 3241673 A 26

Abstract (Basic): DE 3241673 A

The **compression** is intended for digital data of an original letter pattern, using an electronic computer. An **image** of an original is divided in a number of exclusion **images** by **separating lines**. The intersection points between these lines and the contour lines of a letter field of each exclusion **image** are detected for use as **start** and **end points**.

While the contour lines of the letter field of each exclusion **image** are scanned from **start** to **end point**, characteristic points are selected. The contour lines of the letter fields of adjacent exclusion **images** are interconnected at the **start** and **end point**.

Pref. the characteristic point of the contour line is chosen in dependence on the direction of two vectors of two representative points, adjacent to the given representative point.

Title Terms: TWO; VALUE; **IMAGE** ; DATA; **COMPRESS** ; PHOTO; TYPESETTER; DIVIDE; ORIGINAL; EXCLUDE; **IMAGE** ; SEPARATE; LINE; DETECT; INTERSECT; POINT; TEXT; FIELD; CONTOUR; LINE

Derwent Class: P74; S06; T04; W02

International Patent Class (Additional): B41B-019/00; G06F-015/20;

G06K-009/34; H04N-001/41

File Segment: EPI; EngPI

21/5/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO

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02486485 \*\*Image available\*\*

DATA **COMPRESSING METHOD**

PUB. NO.: 63-103385 [JP 63103385 A]

PUBLISHED: May 09, 1988 (19880509)

INVENTOR(s): HAYASHI HISAHIRO

APPLICANT(s): SEIKO EPSON CORP [000236] (A Japanese Company or Corporation)  
, JP (Japan)

APPL. NO.: 61-250065 [JP 86250065]

FILED: October 21, 1986 (19861021)

INTL CLASS: [4] G06F-015/66

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

JOURNAL: Section: P, Section No. 759, Vol. 12, No. 345, Pg. 127,  
September 16, 1988 (19880916)

#### ABSTRACT

PURPOSE: To stably determine a representative point whatever manner a linear **graphic** is drawn in, by detecting the representative point in accordance with linearly transformed data.

CONSTITUTION: Coordinate point data of a coordinate point sequence is inputted to a coordinate point data storage part 2 from a coordinate point input part 1. An operation processing part 3 converts the coordinate point sequence to synthesis of two vectors having an **angle difference**  $2\pi/h$  and traces it and determines the representative point by the change of vector length and converts the linear **graphic** to a representative point sequence to 1compress data. Representative point data is led out through a representative point data storage part 4.

21/5/15 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010273205 \*\*Image available\*\*

WPI Acc No: 1995-174460/199523

XRPX Acc No: N95-136969

**Image data compression method for computer graphics - involves quantising minute blocks within limits specified by minimum and maximum values of minute blocks obtained by reverse quantisation**

Patent Assignee: SEIKO EPSON CORP (SHIH )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No Kind Date Applicat No Kind Date Week

JP 7095411 A 19950407 JP 93236504 A 19930922 199523 B

Priority Applications (No Type Date): JP 93236504 A 19930922

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 7095411 A 5 H04N-001/41

Abstract (Basic): JP 7095411 A

The **image data compression** method involves dividing a digital **image** obtained from an A/D convertor (1) into minute blocks (B) using a block division circuit (22). The maximum (MAX) and minimum (MIN) value of these minute blocks is obtained by a detection circuit (23). The minute blocks are further divided into small minute blocks (SB) using a second block division circuit (25). The maximum (SMAX) and minimum (SMIN) of these minute blocks is obtained by another detection circuit (26).

The maximum and minimum values of the second set of minute blocks are quantized by a quantization circuit (30) within the limits specified by maximum and minimum values of minute blocks (B). The quantized values are reverse quantized by a reverse quantization circuit (32) to obtain maximum and minimum values (SMAX', SMIN'). Further division of minute blocks (SB) are quantized within the limits specified by maximum and minimum (SMAX', SMIN') values. **ADVANTAGE - Improves compression rate without degrading clarity. Performs quantization corresponding to visual angle characteristics of observer.**

Dwg.1/6

Title Terms: **IMAGE** ; DATA; **COMPRESS** ; METHOD; COMPUTER; **GRAPHIC** ; QUANTUM; MINUTE; BLOCK; LIMIT; SPECIFIED; MINIMUM; MAXIMUM; VALUE; MINUTE ; BLOCK; OBTAIN; REVERSE; QUANTUM

Derwent Class: T01; W02

International Patent Class (Main): H04N-001/41

International Patent Class (Additional): G06T-009/00; H04N-001/415

File Segment: EPI

\*\*\*\*\*[YOUR INVENTION]\*\*\*\*\*

22/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014277084 \*\*Image available\*\*

WPI Acc No: 2002-097786/200213

Related WPI Acc No: 2002-268430; 2002-392934; 2002-414489; 2002-607272; 2003-419152

XRPX Acc No: N02-072211

**Repetitive graphical data transmission rate reduction method for remote display device, involves searching fuzzy key when index of graphical data is not found**

Patent Assignee: CITRIX SYSTEMS INC (CITR-N)

Inventor: COLLINS H; YANG R; COLEMAN P

Number of Countries: 096 Number of Patents: 022

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200192973	A2	20011206	WO 2001US17323	A	20010529	200213 B
AU 200163490	A	20011211	AU 200163490	A	20010529	200225
EP 1285517	A2	20030226	EP 2001937791	A	20010529	200319
			WO 2001US17323	A	20010529	
EP 1320240	A2	20030618	EP 2001937791	A	20010529	200340
			EP 20035803	A	20010529	
EP 1320241	A2	20030618	EP 2001937791	A	20010529	200340
			EP 20035804	A	20010529	
EP 1326405	A2	20030709	EP 2001937791	A	20010529	200345
			EP 20035805	A	20010529	
EP 1326406	A2	20030709	EP 2001937791	A	20010529	200345
			EP 20035806	A	20010529	
KR 2003031903	A	20030423	KR 2002716060	A	20021126	200353
JP 2004501445	W	20040115	WO 2001US17323	A	20010529	200410
			JP 2002501120	A	20010529	
EP 1285517	B1	20050323	EP 2001937791	A	20010529	200523
			WO 2001US17323	A	20010529	
			EP 20035803	A	20010529	
			EP 20035804	A	20010529	
			EP 20035805	A	20010529	
			EP 20035806	A	20010529	
EP 1326405	B1	20050323	EP 2001937791	A	20010529	200523
			EP 20035805	A	20010529	
DE 60109602	E	20050428	DE 109602	A	20010529	200530
			EP 2001937791	A	20010529	
			WO 2001US17323	A	20010529	
DE 60109631	E	20050428	DE 109631	A	20010529	200530
			EP 20035805	A	20010529	
EP 1320240	B1	20050720	EP 2001937791	A	20010529	200547
			EP 20035803	A	20010529	
EP 1326406	B1	20050720	EP 2001937791	A	20010529	200547
			EP 20035806	A	20010529	
DE 60112103	E	20050825	DE 112103	A	20010529	200557
			EP 20035803	A	20010529	
DE 60112107	E	20050825	DE 112107	A	20010529	200557
			EP 20035806	A	20010529	
ES 2240461	T3	20051016	EP 2001937791	A	20010529	200571
ES 2240872	T3	20051016	EP 20035805	A	20010529	200571
DE 60109631	T2	20060119	DE 109631	A	20010529	200612
			EP 20035805	A	20010529	
ES 2246433	T3	20060216	EP 20035806	A	20010529	200615
ES 2246432	T3	20060216	EP 20035803	A	20010529	200615

Priority Applications (No Type Date): US 2000225217 P 20000814; US 2000207532 P 20000526

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200192973 A2 E 69 G05B-000/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
 CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
 PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
 Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
 IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW  
 AU 200163490 A Based on patent WO 200192973  
 EP 1285517 A2 E H04L-029/06 Based on patent WO 200192973  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE SI TR  
 EP 1320240 A2 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE TR  
 EP 1320241 A2 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE TR  
 EP 1326405 A2 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE TR  
 EP 1326406 A2 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE TR  
 KR 2003031903 A H04L-029/00  
 JP 2004501445 W 114 G06F-003/153 Based on patent WO 200192973  
 EP 1285517 B1 E H04L-029/06 Related to application EP 20035803  
 Related to application EP 20035804  
 Related to application EP 20035805  
 Related to application EP 20035806  
 Related to patent EP 1320240  
 Related to patent EP 1320241  
 Related to patent EP 1326405  
 Related to patent EP 1326406  
 Based on patent WO 200192973  
 Designated States (Regional): DE ES FR GB IE IT  
 EP 1326405 B1 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): DE ES FR GB IE IT  
 DE 60109602 E H04L-029/06 Based on patent EP 1285517  
 Based on patent WO 200192973  
 DE 60109631 E H04L-029/06 Based on patent EP 1326405  
 EP 1320240 B1 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): DE ES FR GB IE IT  
 EP 1326406 B1 E H04L-029/06 Div ex application EP 2001937791  
 Div ex patent EP 1285517  
 Designated States (Regional): DE ES FR GB IE IT  
 DE 60112103 E H04L-029/06 Based on patent EP 1320240  
 DE 60112107 E H04L-029/06 Based on patent EP 1326406  
 ES 2240461 T3 H04L-029/06 Based on patent EP 1285517  
 ES 2240872 T3 H04L-029/06 Based on patent EP 1326405  
 DE 60109631 T2 H04L-029/06 Based on patent EP 1326405  
 ES 2246433 T3 H04L-029/06 Based on patent EP 1326406

ES 2246432 T3 H04L-029/06 Based on patent EP 1320240

Abstract (Basic): WO 200192973 A2

**NOVELTY** - An associative index indicating prior transmission of graphical data such as encoded **bitmap** or glyph or strip, is searched. When index is not found, an associative **fuzzy key** is searched in **fuzzy** database. The **key** indicates likelihood of storage of data in persistent storage **memory** coupled to display. The key is then transmitted to an agent associated with **memory** and display.

**DETAILED DESCRIPTION** - INDEPENDENT CLAIMS are also included for the following:

- (a) Data transmission rate reduction method and system;
- (b) Repetitive graphical data transmission rate reduction system;
- (c) Data processing activity adapting method and system;
- (d) Server processing rate adapting method and system;
- (e) Remote off-screen surface formation control method and system;
- (f) Graphical data transmission rate reduction method and system

**USE** - For reducing amount of repetitive graphical data transmitted to remote display device in distributed computer system.

**ADVANTAGE** - Minimizes size of each discrete data to be transmitted and increases repeatability within protocol stream. Also reduces the frequency of overscroll problems encountered when there is performance mismatch between fast server and relatively slow network or client.

**DESCRIPTION OF DRAWING(S)** - The figure shows a client node coupled to server node in communication network.

pp; 69 DwgNo 1/11

Title Terms: REPEAT; GRAPHICAL; DATA; TRANSMISSION; RATE; REDUCE; METHOD; REMOTE; DISPLAY; DEVICE; SEARCH; FUZZ; KEY; INDEX; GRAPHICAL; DATA; FOUND  
Derwent Class: T01; T06

International Patent Class (Main): G05B-000/00; G06F-003/153; H04L-029/00; H04L-029/06

International Patent Class (Additional): G06F-017/30; G06T-009/20

File Segment: EPI

30/5/8 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007325178

WPI Acc No: 1987-322185/198746

XRPX Acc No: N87-240927

**Binary data compression and expansion system - uses stored reference line data to control compression and expansion and address generator to indicate access to storage unit**

Patent Assignee: TOSHIBA KK (TOKE )

Inventor: SATO F

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3711201	A	19871112	DE 3711201	A	19870227	198746 B
JP 62283720	A	19871209	JP 8744545	A	19870227	198804
US 4760461	A	19880726	US 8718283	A	19870224	198832
DE 3711201	C	19891109				198945

Priority Applications (No Type Date): JP 8643694 A 19860228

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 3711201 A 27

US 4760461 A 26

Abstract (Basic): DE 3711201 A

The binary data companding system has a processing unit and a reference line data storage unit to store inputted ref. line data from the processing unit in units of given data length for an instantaneous or present processing line and a next processing line, and to output the read ref. line data for the processing unit.

The storage unit is a chronological memory or a FIFO. A ref. line address generator unit generates an address for when the processing unit has established access to the storage unit. In this case the storage unit is a static high-speed random access memory (RAM). The processing unit and the generator unit form an integrated circuit.

USE - Processing pictorial data, e.g. in accordance with CCITT group-IV facsimile standard

Title Terms: BINARY; DATA; COMPRESS; EXPAND; SYSTEM; STORAGE; REFERENCE; LINE; DATA; CONTROL; COMPRESS; EXPAND; ADDRESS; GENERATOR; INDICATE; ACCESS; STORAGE; UNIT

Index Terms/Additional Words: IMAGE; PIPE; PROCESS

Derwent Class: T01; T04; U21; W02

International Patent Class (Additional): G06F-005/00; G06F-015/62; G06K-009/36; H03M-007/42; H04N-001/41

File Segment: EPI

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NPL

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File 2:INSPEC 1898-2006/Mar W3  
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File 94:JICST-EPlus 1985-2006/Jan W1  
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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

Set Items Description

- S1 3723029 IMAG??? OR GRAPHIC? ? OR PICTURE? ? OR BITMAP???? OR GIF? ?  
OR JPEG? ?
- S2 6057652 PATH? ? OR LINE? ? OR ROW? ? OR ARRAY? ? OR VECTOR? ? OR P-  
IXEL? ? OR PEL OR PELS OR PICTURE()ELEMENT? ?
- S3 95905 S2(3N)(SPLIT? ? OR SPLITTING OR DIVID??? OR DIVISION? ? OR  
SEPARAT??? OR BISECT??? OR BREAK??? OR SEGMENT??? OR SEGMENTA-  
TION? ?)
- S4 16612 ANGLE? ?(3N)(QUANTIZ??? OR QUANTIZATION? ? OR DIFFERENCE? ?  
OR DIFFERENTIAL OR DELTA)
- S5 1423 ANGLE? ?(3N)ABSOLUTE? ?
- S6 109241 (COORDINATE OR COORDINATES OR POINT? ?)(3N)(BEGINNING OR B-  
EGIN? ? OR START??? OR FIRST OR 1ST OR INITIAL?? OR ORIGINAT?-  
??)
- S7 2742634 KEY? ? OR LOCATION? ? OR ADDRESS??
- S8 1567 S7(3N)(FUZZY OR FUZZINESS)
- S9 995505 MEMORY OR MEMORIES OR RAM OR ROM OR CACHE? ?
- S10 0 S1 AND S3 AND (S4 OR S5) AND S6 AND S8(5N)S9
- S11 17 S1 AND S3 AND (S4 OR S5)
- S12 13 RD (unique items)
- S13 8 S12 NOT PY=2001:2006
- S14 663 S1(5N)COMPRESS??? AND S3
- S15 8 S14 AND (S6 OR S8)
- S16 8 RD (unique items)
- S17 4 S16 NOT PY=2001:2006
- S18 24 S1(5N)COMPRESS??? AND (S4 OR S5)
- S19 15 RD (unique items)
- S20 15 S19 NOT (S12 OR S16)
- S21 9 S20 NOT PY=2001:2006
- S22 230 S1(5N)COMPRESS??? AND S6
- S23 8 S22 AND (S3 OR S4 OR S5 OR S8)
- S24 0 S23 NOT (S12 OR S16 OR S20)
- S25 0 S22 AND DISTRIBUT??? (3N)APPLICATION? ?
- S26 10 S1(5N)COMPRESS??? AND S8
- S27 6 RD (unique items)
- S28 3 S27 NOT PY=2001:2006
- S29 111 S1(5N)COMPRESS??? AND DISTRIBUT??? (3N)APPLICATION? ?
- S30 1 S29 AND (S3 OR S4 OR S5 OR S6 OR S7(5N)S9)

? logoff hold

30mar06 11:45:14 User259273 Session D365.11

17/5/1 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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05359372 E.I. No: EIP99094782755

**Title: Fast motion estimation algorithm for MPEG2 video using ripple-shaped search**

**Author:** Nakajima, Yasuyuki; Yoneyama, Akio; Sugano, Masaru; Yanagihara, Hiromasa

**Corporate Source:** KDD R&D Lab, Saitama, Jpn

**Conference Title:** Proceedings of the 1999 IEEE International Symposium on Circuits and Systems, ISCAS '99

**Conference Location:** Orlando, FL, USA **Conference Date:** 19990530-19990602

**E.I. Conference No.:** 55489

**Source:** Proceedings - IEEE International Symposium on Circuits and Systems v 4 1999. p IV-207-IV-210

**Publication Year:** 1999

**CODEN:** PICSDI **ISSN:** 0271-4310

**Language:** English

**Document Type:** JA; (Journal Article) **Treatment:** T; (Theoretical)

**Journal Announcement:** 9910W4

**Abstract:** Although many fast motion estimation algorithms for video coding such as H.261/3 and MPEG1 have been proposed, coding algorithms such as MPEG2 involve much larger search windows due to larger picture size and different coding structures. In this paper, we propose a novel fast motion estimation algorithm using ripple-shaped search. In the proposed algorithm, an **initial search point** is determined using motion vector information of neighboring macroblocks, then a ripple-shaped search and four-step search (4SS) are used for macro and micro search, respectively. In addition, a **break line** method is employed to reduce the number of the mean absolute difference (MAD) calculations within a macroblock. Although 4SS can achieve almost the same speed up factors as the proposed algorithm, the PSNR performance of video coding at 4 and 10 Mbit/s by our algorithm is much better than that of a 4SS and is very close to that of full search.

(Author abstract) 14 Refs.

**Descriptors:** \*Image coding; Algorithms; Computational complexity; Constraint theory; **Image compression**; CMOS integrated circuits; Parameter estimation; Standards; Signal to noise ratio

**Identifiers:** Motion estimation; Block matching; Motion picture experts group (MPEG) standards

**Classification Codes:**

721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 714.2 (Semiconductor Devices & Integrated Circuits); 902.2 (Codes & Standards); 716.1 (Information & Communication Theory)

741 (Optics & Optical Devices); 921 (Applied Mathematics); 721 (Computer Circuits & Logic Elements); 714 (Electronic Components); 902 (Engineering Graphics & Standards); 716 (Radar, Radio & TV Electronic Equipment)

74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 90 (GENERAL ENGINEERING)

DIALOG(R)File 95:TEME-Technology & Management  
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00753177 194010538279

**Manipulating general vectors on synchronous binary n-cube**  
(Manipulation allgemeiner Vektoren auf synchronen binären n-kubischen Strukturen)

Lin, W

Inst. of Comput. Sci., Nat. Chung-Hsing Univ., Taiwan

IEEE Transactions on Computers, v42, n7, pp863-871, 1993

Document type: journal article Language: English

Record type: Abstract

ISSN: 0018-9340

**ABSTRACT:**

The author describes efficient manipulations of general vectors on the synchronous binary n-cube structure. A general vector is defined as a set of elements stored in consecutive processors with arbitrary length and **starting point**, and one element per processor. New routing methods for manipulating general vectors are presented. The author focuses on six major **vector** manipulating functions: merge, **split**, rotation, reverse, compression, and expansion. They are frequently used to extract and structure data parallelism in image processing and parallel solutions of linear systems. It is observed that varying the dimension order is a key to collision-free vector manipulations. A formal network model is developed for determining when link collisions occur. With the aid of this network model dimension orders yielding collision-free routine for the six manipulating functions are identified. Collision-free routing allows data communication to complete in the optimal time-single network cycle. The dimension orders are easy to encode and decode, and they are feasible for physical implementation.

**DESCRIPTORS:** ROTATIONS; EXTENDING--SPATIAL; CODING; DECODING; **COMPRESSION**; **IMAGE PROCESSING**; DATA COMMUNICATION; MULTIPROCESSING SYSTEMS; VECTORS;

PARALLEL PROCESSING; INTERCONNECTION NETWORKS--CIRCUITS; MULTIPROCESSOR INTERCONNECTION NETWORKS

**IDENTIFIERS:** VECTOR PROCESSOR SYSTEMS; GENERAL VECTORS MANIPULATION; SYNCHRONOUS BINARY N CUBE; ARBITRARY LENGTH; MERGE; SPLIT; REVERSE; DATA PARALLELISM; COLLISION FREE VECTOR MANIPULATIONS; FORMAL NETWORK MODEL; COLLISION FREE ROUTINE; MANIPULATING FUNCTIONS; OPTIMAL TIME SINGLE NETWORK

CYCLE; VEKTORMANIPULATION; Vektormanipulation; Mehrprozessorverbindung

21/5/7 (Item 3 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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04579588 JICST ACCESSION NUMBER: 00A0277994 FILE SEGMENT: JICST-E

**Vector Quantization of Picture Signals Using Angle Transform.**

XIE J (1); SATO KAZUHIRO (2)

(1) Tokyo Metropolitan Inst. Technol.; (2) Tokyo Metrop. Inst. of Technology

Tokyo Toritsu Kagaku Gijutsu Daigaku Kiyo(Memoirs of Tokyo Metropolitan Institute of Technology), 1998, VOL.11, PAGE.31-37, FIG.18, TBL.1, REF.6

JOURNAL NUMBER: G0538CBH ISSN NO: 1340-3176

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:621.397.3

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: This desine is based on a block division that a large image is divided into some small size images called block, each block is expressed as a length and angles of a vector. The length is used by the scalar quantizer and the angles are used by the vector quantizer. The results of simulation by image compression generated show the new approach of decreasing the codebook sizes and computational time. (author abst.)

DESCRIPTORS: vector quantization; image quantization; image compression ; image coding; angle; mathematical transformation; code table; computer simulation; image quality

BROADER DESCRIPTORS: signal quantization; signal processing; treatment; quantization; modification; image processing; information processing; coding(signal); geometric quantity; mapping(mathematics); transformation and conversion; table(chart); diagram and table; computer application; utilization; simulation; image characteristic; characteristic

CLASSIFICATION CODE(S): JE04010I

30/5/1 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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04905322 E.I. No: EIP98014000144

**Title: Multiresolution compression and reconstruction**

Author: Staadt, Oliver G.; Gross, Markus H.; Weber, Roger

Corporate Source: ETH Zurich

Conference Title: Proceedings of the 1997 IEEE Visualization Conference

Conference Location: Phoenix, AZ, USA Conference Date: 19971019-19971024

Sponsor: IEEE

E.I. Conference No.: 47571

Source: Proceedings of the IEEE Visualization Conference 1997. IEEE Comp Soc, Los Alamitos, CA, USA,97CB36155. p 337-346

Publication Year: 1997

CODEN: 001061

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 9803W1

Abstract: This paper presents a framework for multiresolution compression and geometric reconstruction of arbitrarily dimensioned data designed for **distributed applications** . Although being restricted to uniform sampled data, our versatile approach enables the handling of a large variety of real world elements. Examples include nonparametric, parametric and implicit lines, surfaces or volumes, all of which are common to large scale

data sets. The framework is based on two fundamental steps: Compression is carried out by a remote server and generates a bitstream transmitted over the underlying network. Geometric reconstruction is performed by the local client and renders a piecewise linear approximation of the data. More precisely, our compression scheme consists of a newly developed pipeline starting from an initial B-spline wavelet precoding. The fundamental properties of wavelets allow progressive transmission and interactive control of the compression gain by means of global and local oracles. In particular we discuss the problem of oracles in semiorthogonal settings and propose sophisticated oracles to remove unimportant coefficients. In addition, geometric constraints such as boundary lines can be compressed in a lossless manner and are incorporated into the resulting bit-stream. The reconstruction pipeline performs a piecewise adaptive linear approximation of data using a fast and easy to use point removal strategy which works with any subsequent triangulation technique. As a result, the pipeline renders line segments, triangles or tetrahedra. Moreover, the underlying continuous approximation of the wavelet representation can be exploited to reconstruct implicit functions, such as isolines and isosurfaces more smoothly and precisely than commonplace methods. Although it scales straightforwardly to higher dimensions the performance of our framework is illustrated with results achieved on data very popular in practice: parametric curves and surfaces, digital terrain models, and volume data. (Author abstract) 23 Refs.

Descriptors: **\*Image compression**; Image reconstruction; Data structures; Computational geometry; Mathematical models; Approximation theory; Piecewise linear techniques; Three dimensional computer graphics; Computer networks; Wavelet transforms

Identifiers: Oracles; Isosurface; Wavelet

Classification Codes:

723.2 (Data Processing); 723.5 (Computer Applications); 921.6 (Numerical Methods); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory); 921.3 (Mathematical Transformations)  
 723 (Computer Software); 921 (Applied Mathematics)  
 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)